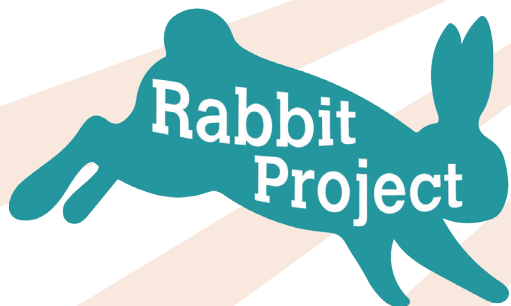


Alabama Cooperative Extension System

4-H Rabbit Project

Production Manual

4HYD-2094



Acknowledgments

Some of the material (both information and illustrations) for this publication came from the 4-H rabbit project manuals published by Illinois, Kansas, Louisiana, Oklahoma, Nebraska, Texas A&M, and other state Cooperative Extension Service presses. Information cited also includes data from The Standard of Perfection (2001 Edition) published by the American Rabbit Breeders Association and the rabbit manuals published by the National 4-H CCS. Each publication has provided valuable information and assistance in the preparation of this manual.

Introduction

The 4-H Rabbit Project is one of the most popular 4-H projects in the United States. Rabbits grow fast and cost less to raise than most other types of livestock. Raising rabbits requires little room, low overhead expense, and minimal daily maintenance. Rabbits are simple to work with and fun to watch grow. Raising them can even introduce you to a different way of making money.

While it is not difficult to successfully raise rabbits, you can't be haphazard in caring for them. Raising them requires careful selection, good equipment, proper sanitation, and strategic planning.

Before you begin your rabbit project, take time to decide if it is right for you. Determine whether you have time to properly care for the rabbits, and consider whether other family pets, such as cats and dogs, would prevent a successful rabbit production. If you live in a city, check your local ordinances to see if it is legal to raise rabbits in your area.

If you have determined that the conditions are right for your rabbit project, look for a suitable place to keep your rabbits and arrange for the appropriate hutches and equipment.

Goals of the 4-H Rabbit Project

- Learn about rabbit behaviors and how they live
- Learn about rabbit feed and nutrition, health, and disease control
- Develop responsibility through the rabbits' dependence on you for care and comfort
- Keep records and manage your own business
- Experience the benefits of raising and caring for rabbits
- Develop leadership and communication skills
- Build a rapport with other rabbit enthusiasts
- Provide opportunities to share your success in your community
- Gain confidence and pride from completing your project

A Message to 4-H Members

You are about to embark on a fun, hands-on rabbit project that will create lasting memories for you and your family. You will learn about rabbit anatomy, different breeds, costs of raising a rabbit, principles of nutrition, and much, much more. This manual has been prepared as a reference to provide information you will need throughout your journey. Keep it in a safe place. Feel free to contact your local Extension office with any questions or concerns that may arise. Remember, this is a learning process to help teach important life skills while having fun. With your willingness and commitment to follow through, your project will be a success!



Choosing a Rabbit Project

You have two options for participation in the Alabama 4-H Rabbit Project. Your choice depends on the intended use of the rabbits.

Market Rabbit Project. In keeping with the name, this project allows you to raise, feed, care for, fit and groom, show, and finally sell young rabbits. Generally, you will own one or more does (female rabbits) and an appropriate number of bucks (male rabbits). 4-H'ers may have crossbred or standardized breeds for this project.

Pet Rabbit Project. In this project, you will own one or two rabbits, either buck or doe. In contrast to the market project participants, you will exhibit breeding rabbits that are not sold. Members take these rabbits home and continue to care for them to produce more kits (baby rabbits). These kits can then be kept to show, sell to a market, or sell to other 4-H club members for their projects.

Selecting Your Rabbit Breed

Deciding on a breed of rabbit to choose is often a difficult decision for first-time participants. Base your decision on the purpose for raising your rabbits. Color, color pattern, and other breed characteristics often play a major role in this decision. But it is not practical. The choice of breed can affect several factors such as the size of the hutch, amount of care required, proper development of the fur, and the age when breeding can begin. Before buying a rabbit, read about the various breeds, attend rabbit shows, and find places where you can observe different breeds.

When possible, buy rabbits from established, reliable breeders. Publications by the American Rabbit Breeders Association, Inc. (ARBA) can be a source for finding the names of breeders. These are people who are respected by other breeders for having healthy rabbits, good records, and a generally good reputation as rabbit breeders and raisers. If there is one close to you, plan to visit the farm and select your stock. If this is not possible, write to one.



Rabbit Breed Characteristics

Breed	Color	Approximate Mature Weight (in pounds)	Principal Uses	Size
American Chinchilla	Resembles the true chinchilla (<i>Chinchilla lanigera</i>).	9–12	Show, Meat, Fur	Medium
Californian	White body with dark or black nose, ears, feet, and tail.	8–10½	Show, Meat	Medium
Champagne D'Argent	Dark slate blue undercolor; blue-white or silver surface color with a lot of long black guard hairs.	9–12	Show, Meat	Medium
Checkered Giant	White with black or blue spots on cheeks, sides of body, and hindquarters; wide spine stripe; black or blue ears and nose with black or blue circles around the eyes.	11 or more	Show, Meat	Large
Dutch	Black, blue, chocolate, tortoise, steel gray, and gray; white saddle or band over the shoulder carrying down under the neck and over the front legs; white rear feet (stops).	3½–5½	Show, Laboratory	Small
English Spot	White body with black, blue, chocolate, tortoise, steel gray, lilac, or gray spots; nose, ears, eye circles, and cheek spots; spine stripe from base of ears to end of tail; side spots from base of ears to middle of hindquarters.	5–8	Show, Meat, Laboratory	Small
Flemish Giant	Steel gray, light gray, sandy, black, blue, white, and fawn. No two colors allowed on solids.	13 or more	Show, Meat	Large
Netherland Dwarf	Sells, shaded agouti, tan patterned, and other varieties.	2½	Laboratory, Show	Small
New Zealand	White, red, or black.	10–12 (does)	Show, Fur, Laboratory	Small
Polish	White; ruby-red or blue eyes; black or chocolate.	3½	Show, Laboratory	Small
Rex	Black, blue, Californian, castor, chinchilla, chocolate, lilac, lynx, opal, red, sable, seal, and white.	7 or more	Show, Meat, Fur	Medium
Satins	Black, blue, chocolate, red, copper, chinchilla, Californian, white, and Siamese.	8–11	Show, Meat, Fur	Medium
Silver Marten	Black, blue, chocolate, or sable with silver-tipped guard hairs.	6½–9½	Show, Fur, Meat	Small

What Should You Look For

Now that you have an idea about the breed you want, it is time to consider two factors: body build and fur.

Always check to see where the hindquarters of the rabbit are located. The hindquarters are the legs and the loin up to the first rib on the forequarters. To have good hindquarters, a rabbit must have a wide loin section with well-rounded and full hips. The forequarters will be full and have a good thickness of meat over the shoulders.

Good fur is another thing to consider. According to the ARBA fur standard, there are four points to check: condition, density, texture, and balance.

Condition

Look for a fur that is tight. You do not want a molting rabbit. There should be no breaks in the fur, no mats of fur, and no stains. The guard hairs should be supple and glossy, and the fur should look alive and brilliant.

Density

Look for a good, thick coat of fur all over the back, sides, chest, and flanks.

Texture

The texture of the coat should never be harsh or wirelike, nor should it be silky. Look for fur thick enough in guard hairs to offer some resistance when you stroke it. Guard hairs are heavier hairs that protrude above the undercoat to help protect it. The undercoat should be fine and soft.

Balance

Look for evenness and smoothness in rabbit fur. A dense coat of short fur is better than a long, thin coat. A dense coat of long fur is better than a short, thin coat.



Equipment

The equipment needed to raise rabbits can be inexpensive and constructed from readily available, low-cost items. You do not need a lot of items, but you must have feeding, watering, and nesting equipment.

Hutches and Cages

In making plans for proper housing, first consider the rabbits' comfort and your ease of handling them. You can make a two- or three-compartment hutch out of wood with roofing materials and wire. Each rabbit pen, or hutch, should protect the rabbits from bad weather and animals and provide enough room for growth and exercise. *The most important factor in building a hutch is sanitation.*

If you build a hutch for your rabbits, remember the following:

- Provide an open-air, self-cleaning area for the rabbits at all times.
- Do not use metal roofs because they conduct too much heat.

- DO NOT USE paint on the inside of any hutches or cages because the rabbits may chew and digest it, leading to lead poisoning.
- Construct a cage that provides enough sunlight, but does not reach your rabbits because the sunlight bleaches out fur color. Bleached fur will result in merits deducted by a judge at showing time.
- Build an all-wire floor for the ideal cage. Use 14-gauge wire; $\frac{1}{2}$ " x 1" wire can help prevent sore hock problems. The 14-gauge wire is strong enough to support a 12- to 14-pound mature doe and her litter in a 30" x 30" cage.
- Be sure that the cage has wire sides with the top and front made of 14-gauge wire and 1" x 2" or $\frac{1}{2}$ " x $\frac{1}{2}$ " hardware cloth. Your choice of wire will depend on the price, availability of materials, and rabbit size.

Many variations in cage or hutch size can be used successfully. The size will depend on the breed of rabbit. Remember that the entire outdoor cage must be protected by an all-weather roof with a proper 14- to 16-inch overhanging eave. Rabbits must have proper shelter designed for protection.



Feeding

With your hutches completed, it is time to start thinking about what you need to feed your rabbits. You must provide proper feeds and use appropriate feeding methods in order to have a successful project. It is best to use a feed crock, trough, or hopper to prevent feed waste and maintain cleanliness. You can find these items specifically designed for rabbits at feed and livestock equipment stores.

Because rabbits are herbivores, their diet should contain only plant material. When feeding your rabbits, keep the following in mind:

- Provide a well-balanced ration that has proper amounts of protein, energy, minerals, and vitamins. Use about 4 ounces of feed with approximately 16 percent protein each day.
- Start with the same feed the rabbits are accustomed to eating. Then **SLOWLY** change feed. *Sudden change can cause a rabbit to get sick or possibly die.*
- Do not feed a young rabbit cabbage or lettuce, which cause diarrhea and scours.
- Feed a doe with a litter all the feed she will eat and all the water she will drink.

- Lower feed cost by providing good, clean, cured, leafy hay, and oats.
- Get a booklet on feeding rabbits from one or more feed companies. The books will explain the different rations and their proper use.
- Remember that a regular feeding schedule is essential. Make every effort to feed about the same hour each day. Many rabbit breeders feed at night or early in the morning.



Pellets to Feed Per Day

Type or Age of Rabbit	Small Breeds	Medium Breeds	Large Breeds
Buck	2 to 4 ounces	4 to 6 ounces	6 to 9 ounces
Doe	2 to 3 ounces	4 to 5 ounces	6 to 8 ounces
Doe, bred 1 to 15 days	2 to 3 ounces	4 to 5 ounces	6 to 8 ounces
Doe, bred 16 to 30 days	3 to 4 ounces	6 to 8 ounces	9 to 11 ounces
Doe, with week-old litter	6 to 8 ounces	8 to 10 ounces	10 to 12 ounces
Doe, with month-old litter	10 to 14 ounces	14 to 18 ounces	20 to 24 ounces
Doe, with 6 to 8 week-old litter	18 to 22 ounces	24 to 28 ounces	30 to 36 ounces
Weaned Rabbit, 8 weeks old	2 to 3 ounces	3 to 5 ounces	5 to 7 ounces

Water Containers

You must provide clean, fresh water daily for your rabbits. For easy cleanup and less likelihood of tipping over, use an automatic-type watering system (such as dewdrops or water bottles), aluminum pans, or crocks.

How To Have Healthy Rabbits

Rabbits are usually healthy animals, but they can become prone to various diseases. One of the best ways to protect against diseases and parasites is to follow a careful sanitation program at all times. It will take less money to prevent an outbreak than to get rid of one that has spread among your rabbits.

To help detect and prevent diseases, parasites, and illnesses, use the following protocol:

- Examine your animals daily. Pay attention to how much food and water are being consumed and the quality of their nature.
- Never loan bucks to other rabbit breeders.
- Clean cages regularly, and keep drippings and moisture from collecting.
- If you have a sick rabbit, isolate it from the others. Do not handle sick animals until after you have cared for the healthy ones.
- Dispose of all dead animals, and thoroughly disinfect contaminated areas promptly.
- When diseases occur, consult your veterinarian and ask whether treatment will be practical or economical.
- Avoid predisposing or stress factors that can hinder a rabbit's immune system. A rabbit's resistance can be lowered by drafts, heat, cold, fright, crowding, overfeeding, overhandling, poor nutrition, and sudden change of environment or feeding practices.
- Guard against the introduction of disease into a herd, especially from buying a new animal. It is a good idea to have an extra hutch where you isolate the new animal until you are certain it is disease free, which is usually 2 weeks.



Selecting, Grooming, and Showing

For showing, select the best rabbits according to its breed standards. Make sure that you study the show rules, regulations, and classifications carefully before taking a rabbit to a show. Judges will impose strict requirements on weight, color, size, and age of rabbits entering the contest. Although pedigrees are usually not required, good records make good rabbits even more valuable for the show and for meat production.

It is our goal for you to learn a lot about showing and raising rabbits. Some pointers you should know include the following:

- Select best rabbits for showing. Do this early to allow time for conditioning.
- Work with the rabbit at least 6 weeks before the show. Groom it with a soft brush and rub the hair coat with your hands to remove old, dead hair and give the rabbit a shiny new coat. This also helps gentle the rabbit and is a good time to train the rabbit to sit still on a table. Judges will not waste time with rabbits that jump around on the show table.
- Read all rules and regulations for the show beforehand. Ear canker, sore hocks, and other abnormalities will disqualify a rabbit.
- Before the show, always have your rabbit tattooed properly for identification.
- When you arrive at the show, check your entry with the show superintendent or registrar.

Common Diseases, Parasites, and Illnesses of Rabbits

Disease	Symptoms	Cause	Clinician/ Prevention	Treatment
Abscess	Swelling under the skin, usually where there was a cut.	Bacterial infection.	Reduce fighting. Eliminate or remove sharp objects.	Clip fur, lance, drain pus, and apply an approved antibiotic.
Blue breast or mastitis	Swollen and tender mammary gland; blue streaks appear.	Bacterial infection from injury to the mammary gland.	Reduce chance of injury while the doe enters and leaves the nest box.	Disinfect nest box. Penicillin is usually effective.
Buck teeth, wolf teeth, or malocclusion	Difficulty eating; lower teeth protrude; upper teeth are long and curve into mouth.	Inherited defect; must be carried by both parents for it to show up.	Do not use rabbits with buck teeth or the babies of these rabbits for breeding purposes.	Teeth can be cut or trimmed to get the rabbit to market weight.
Coccidiosis	Poor appetite, dull, listless, weight loss, diarrhea, rough fur.	Protozoa (a one-celled parasitic animal).	Use wire floors, keep pens clean, prevent fecal contamination.	Disinfect pens, use sulfaquinoxaline in feed or water.
Ear canker	Scabs or crust in the ear; shakes head; scratches head; may also lose weight.	Ear mite.	Prevent contact with affected individuals.	Treat all rabbits with a cotton swab to apply mineral, vegetable, olive, or baby oil to ear.
Eye infection	Pus around eyes; eyes may stick shut.	Bacterial infection.	Usually found in kits; reduce drafts and stress.	Apply antibacterial ointment to eye.
Fur block or hair ball	Eats small amounts of feed; firmness can be felt in the stomach.	Swallowing large amounts of hair while preening itself.	Usually associated with breeds that have longer hair, such as Angoras.	Half an ounce of mineral oil or surgery if large ball.
Heat stroke	Panting, salivation, high breathing rate.	Lack of ventilation, temperatures above 85 degrees, and/or lack of water.	Provide ventilation and shade, reduce exposure to sunlight, provide plenty of cool water.	Apply cool compress to ears, submerge in cool water (not cold), place in shade.
Pneumonia	Nasal discharge, hard breathing, fever.	Bacterial or viral infection.	Control snuffles; reduce drafts and moisture.	An antibiotic is usually helpful.
Ringworm*	Loss of hair or fur in circular patches.	Infection caused by a fungus.	Do not permit contact with other animals.	Clip hair; treat with fungal medication.
Snuffles or pasteurellosis	Nasal discharge, head shaking, watery eyes.	Upper respiratory bacterial infection.	Reduce stress, increase sanitation procedures.	Tetracycline in feed is usually effective.
Sore hocks	Lies stretched out; scabs on hind legs.	Injury followed by an infection.	Avoid wet bedding; check for sharp objects.	Clean and disinfect affected legs.
Vent disease or spirochetosis	Blisters or dark scabs on external genitals.	Infection by a spirochete.	Increase sanitation and husbandry procedures.	Apply antibiotic and give penicillin.
Weepy eye or conjunctivitis.	Excessive tears that run down the cheek.	Inflammation of the eyelid.	Reduce sources of eye irritation (dirt, dust, etc.)	Use eye wash to remove irritation.

*Ringworms can be transmitted to other animals and humans. It is crucial to always wear gloves when handling an infected rabbit (or other animal).

Show exhibitors do not have feed to care for rabbits during the show. The judge will handle your rabbits and take them to the judging table, but you may be asked to help.

- As the judge examines the rabbit, he or she will record data about the rabbit on the official record. This information is usually also noted on the back of the card attached to the pen. A sticker showing the rabbit's placing is usually placed on the front of the card.
- Always be present when your rabbits is being judged to learn from the judge's comments.
- In judging rabbits, the classifications from the American Rabbit Breeders Association (ARBA) usually prevail.
- Members who show rabbits regularly should read the ARBA's official guide book, *Standard of Perfection*. Members of the local rabbit producers association or 4-H leaders may also provide information. In most shows, classes are divided as follows: Senior Doe, Senior Buck, Intermediate Doe, Intermediate Buck, Junior Doe, Junior Buck, and Pre-Junior

Basic Breeding Techniques

When you started your project, you should have decided whether your ending goal was to sell the rabbits for meat or fur. Either choice requires that you learn the basic techniques of breeding to maximize your profitability. On average, breeders select a doe from a good stock to produce large (four to five) litters a year. This means that the doe is re-bred after 56 days from kindling (or giving birth). For most rabbits, this initial breeding process will begin no earlier than 6 or 7 months.

To begin the breeding procedures, you must first separate and individually house the rabbits at least 18 to 20 days before breeding. Because rabbits are territorial, you should take the doe (female) to the buck's (male) hutch. Mating will usually occur immediately, after which the buck will fall over to his side. Once this happens, promptly return the doe to her hutch. After 5 to 8 hours, return the doe to the buck's hutch to breed again. This will guarantee that she will produce a large litter for your business.

Breeding Chart

In	Meat Pen	Juniors	6-8	Seniors
January	April	June-July	August-September	October
February	May	July-August	September-October	November
March	June	August-September	October-November	December
April	July	September-October	November-December	January
May	August	October-November	December-January	February
June	September	November-December	January-February	March
July	October	December-January	February-March	April
August	November	January-February	March-April	May
September	December	February-March	April-May	June
October	January	March-April	May-June	July
November	February	April-May	June-July	August
December	March	May-June	July-August	September

After 18 to 20 days from the day of mating, return the doe to the buck for “testing.” If she is pregnant, she will run from the buck or aggressively resist him. Another good indicator of the doe’s pregnancy is her continual moving of the bedding on her hutch floor, especially clawing it from the back corners. She may also start to tear fur from her chest and line the hutch floor in preparation for her kits.

Nest Boxes

When a rabbit is born, it is hairless, blind, and deaf. It is **YOUR** job to protect it. Many rabbit breeders use an open box for nesting, particularly in the summer and in the hutches to protect from the elements. When choosing a design, consider the size, shape, warmth, ventilation, and sanitation.

Also consider the following:

- The nest box needs to be large enough to keep the doe comfortable. As a rule of thumb, provide a nest box 18 inches long and 12 inches wide and at least 12 inches high.
- Never use a cardboard box as a nest box. You can make nest boxes from wood, or use an all-metal box with wooden floors.
- Do not use built-in nest boxes unless you can easily remove them.
- Put nest boxes beside the back wall with opening facing the back of the hutch.
- In cold weather, place a piece of good insulation board under the box to help protect against chilling and provide enough straw for the doe to form a cavity for a nest.
- Remember to keep all equipment clean and sanitary.
- Don’t forget to provide fresh feed, water, and nesting material.

Caring for Your Kits

A good indicator of a successful rabbit production is a litter averaging about 4 pounds per rabbit (2 to 3½ pounds for smaller breeds) at the weaning age of 8 weeks. The diet for the newborn rabbits will be only the mother’s milk for the first 3 weeks. After that, you must provide feed and water until the time you sell them. **Do not sell the rabbits until they are at least 2 months old.** This time allows a higher success rate of your rabbits to the new owner.

Before selling any of these young rabbits, check the animals carefully, and truthfully share your findings with the prospective buyer. Remember that you are a 4-H’er and your business venture should represent the 4-H Code of Conduct. Make sure that you indicate the kinds of feed you used and your feeding program so the new owner can change it gradually.

You should not be disappointed if you have a litter with no outstanding specimen. Sometimes the very best parents produce just plain “meat litters.” Keep thorough records to prevent using the same rabbits for your next mating session.

Remember the Do's and Don'ts

Do:

- Keep hutches clean.
- Wash water crock and bottles at least once a week.
- Provide a nest box designed to assist with warmth, ventilation, and sanitation.
- Put the nest box in the hutch before the doe has babies.
- Furnish fresh water every day.
- Watch rabbits carefully. If they get too fat, reduce the feed. If they get too thin, increase the feed.
- Keep rabbits out of drafts and dampness.
- Prevent unnecessary "predispose" stressors on rabbits.
- Contact a veterinarian if your rabbit gets sick.

Don't:

- Select a breed based on looks.
- Use a cardboard box for a nest box.
- Allow rabbits to be in sunlight for long periods of time.
- Overfeed rabbits.
- Expose rabbits to new animals.
- Change rabbit's feed immediately.

**And always
have fun!**



Notes

[illegible]

[illegible]



4HYD-2094



Reviewed by **Brigid McCrea**. Originally created by **Carla Elston**.

For more information, contact your county Extension office.
Visit www.aces.edu/directory.

Trade and brand names used in this publication are given for information purposes only. No guarantee, endorsement, or discrimination among comparable products is intended or implied by the Alabama Cooperative Extension System.

The Alabama Cooperative Extension System (Alabama A&M University and Auburn University) is an equal opportunity educator and employer. Everyone is welcome!

Revised June 2019, 4HYD-2094

© 2019 by the Alabama Cooperative Extension System. All rights reserved. Please contact us if you have accessibility needs. www.aces.edu